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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/542,436

12/22/2005

Oliver Wendt

175.8244USU

2773

27623

7590

09/05/2007

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EXAMINER

GORMAN, DARREN W

ART UNIT

PAPER NUMBER

3752

MAIL DATE

DELIVERY MODE

09/05/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/542,436

Applicant(s)

WENDT ET AL.

Examiner

Darren W. Gorman

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3752

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 July 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application
- ☐ Other: _____

DETAILED ACTION

Claim Objections

1. Claims 3, 5 and 8 are objected to because of the following informalities:

Regarding claim 3, on line 2, the recitation of “a pulse generator” appears to be a double inclusion in the claim, since “a pulse generator” was previously recited on line 3 of claim 1.

Regarding claim 5, the recitation, “the frequency” is unclear? What “frequency” is this recitation referring to?

Regarding claim 8, the recitation, “the frequency” is unclear? What “frequency” is this recitation referring to?

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 3, 5, 6 and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Pelc et al., USPN 6,203,759.

Pelc shows an apparatus (see Figures 1 and 3), which, when in use, anticipates the recited dispensing method, wherein in a dispensing step, several droplets are delivered by a dispenser by a pulse generator (60) acting upon a liquid chamber (inside capillary 62) to deliver droplets

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through a capillary channel, and in a cleaning step, flushing liquid (either system liquid or another designated cleaning liquid) is passed through the liquid chamber, wherein, during the cleaning step, the medium in the liquid chamber is vibrated by the pulse generator to break-up and destroy impurities, a minimum frequency during the cleaning step being at least 1 kHz (see column 10, line 14, through column 11, line 24).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 2, 4, 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pelc et al.

Pelc teaches all of the recited method steps set forth in claims 1 and 3, however Pelc does not expressly disclose varying the frequency of the vibrations during the cleaning step, nor does Pelc disclose a maximum frequency during the cleaning step amounting to 60 kHz.

It should be noted that Pelc discloses an example of a situation in biomedical applications wherein the disclosed system dispenses a liquid containing spheres of various sizes (see column 10, lines 56-64). One having ordinary skill would recognize that clogging which may occur when dispensing such a material could be comparatively more or less difficult to break up depending on how the particles align themselves in the clog. Thus, one having ordinary skill in the art would be motivated to try different vibration frequencies during the cleaning step until the

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most effective clog break-up frequency is found. Further, one having ordinary skill in the art would logically start with a minimum or a maximum frequency and increase or decrease step-wise until that most effective clog break-up frequency is found. Such orderly variation, as opposed to a "hit and miss" random frequency variation, would permit the user to identify which frequencies are more or less effective for breaking up specific types of clogs, which would in turn aid the user in determining optimal cleaning vibration frequencies for specific applications. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to vary the vibration frequency generated by the pulse generator in a step-wise manner during the cleaning step disclosed by Pelc, in order to determine which frequencies are more or less effective for breaking up specific types of clogs, thus determining optimal cleaning vibration frequencies for specific applications.

As to the maximum frequency during the cleaning step amounting to 60 kHz, Pelc discloses a preferred frequency range of from about 1 to 20 kHz. However, Pelc expressly states, "cleaning with pulsing at high frequencies has the effect of far more efficiently dislodging and eliminating matter adhering to the microdispenser (see column 10, lines 41-43). Thus, Pelc teaches that higher frequencies compared to lower frequencies have a better cleaning effect on certain types of clogs, which may occur. Based on such disclosure, one having ordinary skill in the art would be motivated to try frequencies higher than the range disclosed by Pelc, such as 60 kHz, should the frequencies within the expressed range not be effective to break up certain types of clogs which may occur. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use a maximum frequency of 60 kHz with the

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method taught by Pelc, in the event that the specific range disclosed by Pelc is less effective or ineffective for breaking up a particular size or type of clog which may occur in the nozzle.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US Patents to Braun et al., VanSteenkiste et al., and Larson et al., are cited as of interest.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Darren W. Gorman whose telephone number is 571-272-4901. The examiner can normally be reached on M-F 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on 571-272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



DWG
August 20, 2007



Darren W Gorman
Examiner
Art Unit 3752